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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,324	08/18/2003	Takeshi Nishiuchi	60303.32	2834

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EXAMINER

SHEEHAN, JOHN P

ART UNIT PAPER NUMBER

1742

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/642,324

Applicant(s)

NISHIUCHI ET AL.

Examiner

John P. Sheehan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2006 and 19 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/06 & 9/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statements

1. The information disclosure statement filed April 24, 2006 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because:

- I. No copy of the Korean reference KR 1998-16178 was received by the Examiner.
- II. No copy of Croat US Patent No. 4,756,775 (a withdrawn US patent) was received by the Examiner. Although applicants listed this reference on the PTO/SB/08a form (equivalent to the Form PTO-1449) under the heading Non-Patent Literature Documents this document was more than likely not scanned into the computer since it appeared to the contractor to be a US patent. US Patent 4,756,775 is a patent that was withdrawn and therefore does not exist in the PTO database and thus is not available to the Examiner and with few exceptions is not available to the public. The Examiner questions whether 4,756,775 is Serial No. 06/414,936, which eventually became US Patent No. 4,851,058. In view of this, the Examiner has cited 4,851,058 on the PTO Form 892 attached to this Office action.

2. In their response applicants have requested that the Examiner initial reference No. 67 in the IDS submitted September 6, 2005. In response to applicants' request the

Examiner has attached a copy of the PTO/SB/08a forms from said IDS. However, the Examiner has not initialed reference No. 67 but rather has lined through reference No. 67 in that no copy of reference No. 67 was received by the Examiner.

Claim Interpretation

3. Applicants are advised that, in view of the disclosure in paragraph 0176 (the last 3 lines) of the specification the claim language, "substantially excluding La and Ce", e.g., claim 1, lines 12 and 13) has been interpreted to mean that the La and/or Ce content is about 0.5 at% or less.

Terminal Disclaimer

4. The terminal disclaimer filed on April 19, 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent Nos. 6,706,124; 6,790,296; and 6,814,776 and any patent granted on pending US Patent Application Nos. 10/381,005; 10/432,862; 10/484,072 and 10/745,834 has been reviewed and is accepted. The terminal disclaimer has been recorded. Accordingly, the various obviousness double patenting rejections based on these US Patents and applications have been overcome.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 to 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (Ma, US Patent No, 6,332,933, cited by the applicants in the IDS submitted August 18, 2003).

Ma teaches a rapidly solidified (e.g. column 5, lines 1 to 5) nanocomposite rare earth magnetic alloy having a composition that overlaps the alloy composition recited in the instant claims (column 2, line 39 to column 3, line 8) that is used to make bonded magnets. Ma teaches that the alloy has a soft magnetic phase having a grain size of 2 to 60 nm, a hard magnetic phase having a grain size of 10 to 100 nm and a boride component having a grain size of 1 to 30 nm (column 4, lines 3 to 8 and 45 to 52). Ma teaches that the alloy is ground to a powder having a particle size of 10 to 200 microns (column 4, lines 30 to 33). Ma teaches specific example alloys having compositions that are encompassed by the instant claims (column 8, Examples 6 and 7). Ma's Examples 6 and 7 contain 0.525% La, which is considered to be encompassed by the instant claim language "substantially excluding La and Ce" which is defined in the specification as "about 0.5 at% or less" (specification paragraph 176, emphasis added by the Examiner). Ma teaches that the disclosed alloy is made by a process of melt spinning, that is, Ma's alloy is rapidly solidified from the melt and then is optionally heat treated. This is the same process disclosed by the applicants to make the instantly claimed alloy and powder. Ma teaches that the bonded magnets are made by mixing

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the magnetic alloy powder with a binder such as a resin (column 9, lines 28 to 47) thus forming a compound as recited in each of applicants' claims.

The claims and Ma differ in that Ma does not limit the average crystal grain size of the soft magnetic phase to be smaller than the average crystal grain size of the hard magnetic phase nor does Ma teach the volume percent of $R_2Fe_{14}B$ phase.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because Ma's examples alloys have compositions that are encompassed by the instant claims and are made by a process which is similar to, if not the same as, applicants' process of making the instantly claimed alloy. In view of this, Ma' alloys would be expected to possess all the same properties as recited in the instant claims, including having the average crystal grain size of the soft magnetic phase smaller than the average crystal grain size of the hard magnetic phase and the volume percent of $R_2Fe_{14}B$ phase, In re Best, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

7. Claims 1 to 20 are rejected under 35 U.S.C. 103(a) as obvious over Chang et al. (Chang, (IEEE Transactions on Magnetism, Vol. 35, No. 5 September 1999, cited in the IDS submitted August 18, 2003, 2003).

Chang teaches a specific example of an iron based rare earth nanocomposite magnet alloy having a composition that is encompassed by the alloy composition recited in the instant claims (page 3266, Table 1, the second listed alloy). It is noted that this example alloy contains La, however, when the subscript of the rare earth component (9.5) and the subscript of La (0.05) are multiplied the La content proves to be 0.475 or 0.475%. In view of that the fact that the specification defines the claim language "substantially no La or Ce" as "about 0.5 at% or less" (specification paragraph 176, emphasis added by the Examiner) the alloy composition recited in applicants' claims is considered to encompass the cited example alloy taught by Chang containing 0.475% La. Chang teaches that the disclosed nanocomposite alloy ribbon is used in bonded magnets (page 3265, left column, second paragraph, line 4) which would require mixing the magnetic alloy powder with a binder to form a compound as recited in applicants' claims.

Chang and the claims differ in that Chang does not teach all of the alloy properties recited in the applicants' claims nor the volume percent of $R_2Fe_{14}B$ phase

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the specific example alloy taught by Chang has a composition that is encompassed by the instant claims. In view of this, the alloy taught by the reference would be expected to possess all the same

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properties as recited in the instant claims including the volume percent of $R_2Fe_{14}B$ phase, In re Best, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

Response to Arguments

8. Applicant's arguments filed April 18, 2006 have been fully considered but they are not persuasive.

9. The declaration under 37 CFR 1.132 filed April 19, 2006 is insufficient to overcome the rejection of claims 1 to 20 based upon each of Ma (US Patent No. 6,332,933) and Chang et al. (Chang, (IEEE Transactions on Magnetism, Vol. 35, No. 5 September 1999) as set forth in the last Office action because:

I. The declaration does not explicitly set forth the method of making each of the example alloys. Without knowing the method of making the alloys the Examiner cannot determine whether the difference in the alloy properties is the result of a difference in the alloy compositions or a difference in the method of making each alloy, such as, a difference in the purity of the raw materials, the duration of the heat treatment, etc. The declaration states that the Examples 2, 4 and 8 to 13 in the Table of the declaration corresponds to Examples 2, 4 and 8 to

13 in Tables 7 and 8 of the parent application. However, Tables 7 and 8 set forth only the composition of Examples 2, 4 and 8 to 13 and not the properties of these example alloys.

II. Although applicants have submitted the declaration in an attempt to establish new and unexpected results, applicants have not specifically explained exactly what new and unexpected results the declaration demonstrates nor have applicants explained how the declaration demonstrates the new and unexpected results, MPEP 716.02(b)II. Further, applicants rely on the declaration as support for their position that that their claimed alloy achieves unexpected results compared to the alloys of Ma et al. and Chang et al. (applicants' response, page 12, first full paragraph and page 13, third full paragraph), however applicants have not specifically pointed out how the declaration supports their position regarding Ma et al. and Chang et al.

III. The declaration does not compare the claimed invention to the closest known prior art, Ma et al. and Chang et al., MPEP 716.02(e).

In view of the Examiner's evaluation of the applicants' declaration set forth above, applicants' arguments regarding new and unexpected results are not persuasive.

Applicants' argument that Ma et al. and Chang et al. are silent with respect to the percentage volume of the $R_2Fe_{14}B$ and that Ma et al. and Chang et al. do not teach or suggest the percentage volume of the $R_2Fe_{14}B$ as 60% or more is not persuasive. As

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set forth in the statements of the rejections above, in view of the fact that Chang's example alloys and Ma's examples alloys have compositions that are encompassed by the instant claims and are made by a process which is similar to, if not the same as, applicants' process of making the instantly claimed alloy it would be expected that Ma and Chang's alloys would possess all the same properties as recited in the instant claims, including the volume percent of $R_2Fe_{14}B$ phase, In re Best, 195 USPQ, 430 and MPEP 2112.01.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)." see MPEP 2112.01.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any


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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (6:45-4:30) Second Monday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John P. Sheehan
Primary Examiner
Art Unit 1742

jps